

REMARKS

This response is intended as a full and complete response to the non-final Office Action mailed May 7, 2004. In that Office Action the Examiner notes that claims 1-27 are pending, of which claims 1-27 stand rejected. By this response, claims 1, 20, 26, and 27 have been amended, and claims 2-19 and 21-25 continue unamended.

In view of both the amendments presented above and the following discussion, the applicants submit that none of the claims now pending in the application are non-enabling, anticipated or obvious under the provisions of 35 U.S.C. §112, §102 or §103. Thus, the applicants believe that all of these claims are now in allowable form.

It is to be understood that the applicants, by amending the claims, do not acquiesce to the Examiner's characterizations of the art of record or to applicants' subject matter recited in the pending claims. Further, applicants are not acquiescing to the Examiner's statements as to the applicability of the art of record to the pending claims by filing the instant responsive amendments.

Objections

The Examiner has objected to the specification "because of the following informalities: on pages 38, 44 and 46 references are made to U.S. Patent Applications where the attorney docket no. is given instead of the application serial number." In response, applicants have amended the specification to include the missing application serial numbers.

IN THE DRAWINGS

The Applicants have amended FIG. 29 of the drawings to conform to the specification. In particular, reference number 2918 has been added to identify an encoder unit. Support for this amendment may be found in the Applicants' specification on page 48, lines 18-24. As such, the Applicants submit that no new subject matter has been added to the drawings.

Rejections under 35 U.S.C. §102

The Examiner has rejected claims 1-8, 10, 17, 19-23, 26 and 27 under 35 U.S.C. §102(e) as being anticipated by Legall et al. (U.S. Patent 6, 005,565, hereinafter "Legall"). Applicants respectfully traverse the rejection.

The Applicants have amended independent claims 1, 20, 26 and 27 to further clarify the features that the Applicants consider as being inventive. In particular, Applicants' independent claim 1, and similarly, independent claims 20, 26, and 27, as amended, recite:

1. "A method for searching a program guide database, comprising:
receiving, from service provider equipment, an interactive program guide (IPG) comprising a plurality of IPG pages conveyed by respective image streams, each of said IPG pages including a search object and a respective portion of IPG imagery;

receiving one or more search criteria via user interaction with said search object;

sending a request for a search along with the one or more search criteria to a head end of an information distribution system;

receiving at least one search result from the service provider equipment; and

wherein the program guide database is searched at the service provider equipment." (emphasis added).

20. "An interactive program guide (IPG) page, comprising:
at least one guide region configurable to display a listing of a plurality of channels; and
a search window object configurable to receive one or more criteria for the search of the program guide database; wherein said IPG page having said search criteria object is composed and rendered at a head end and operable to support a search of a program guide database." (emphasis added).

26. "A system including provider equipment and subscriber equipment operable to perform a search of a program guide database, comprising:

a program guide source operative to store a program guide database at said provider equipment;

a controller, coupled to the program guide source, and operative to receive a search request from said subscriber equipment that includes one or more search criteria, initiate the search of the program guide database based on the one or more search criteria, and provide one or more search results;

an encoding unit coupled to the controller and operative to encode the one or more search results; and

a cable modem coupled to the controller and the encoding unit and operative to receive the search request and to transmit the one or more encoded search results in a form of a program guide page from said provider equipment to said subscriber equipment." (emphasis added).

27. "A set top terminal (STT) operable to support a search of a program guide database, comprising:

a receiver, for receiving an interactive program guide (IPG) from associated service provider equipment, said IPG having an object for receiving search criteria associated with said program guide database;

a controller operative to receive one or more search criteria and generate a request for a search with the one or more criteria;

a modulator coupled to the controller and operative to send the request to the provider equipment of an information distribution system;

a demodulator operative to receive a modulated signal and generate a transport stream;

a transport de-multiplexer coupled to the demodulator and operative to receive and process the transport stream to provide a plurality of elementary streams; and

a decoder coupled to the transport de-multiplexer and operative to process at least one elementary stream to retrieve one or more search results from the provider equipment, and

wherein the program guide database is searched at the provider equipment." (emphasis added).

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim" (Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 221 U.S.P.Q. 481, 485 (Fed. Cir. 1984)(citing Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 220 U.S.P.Q. 193 (Fed. Cir. 1983)) (emphasis added). Legall fails to disclose each and every element as arranged in the claims, since the cited reference fails to teach "receiving, from service provider equipment, an interactive program guide (IPG) comprising a plurality of IPG pages conveyed by respective image streams, each of said IPG pages including a search object and a respective portion of IPG imagery."

In particular, Legall discloses a system 100 that includes a conventional computer system that has a receiver for receiving satellite transmissions of broadcasts

and programming information through antenna 106. Using the programming information received through receiver 105, the system 100 can generate an electronic program guide (EPG) on the display 120. The EPG enables a user to manipulate information and resources used and the information displayed including a power search tool. In one embodiment, the power search tool is executes a web browser application that uses a search engine to search the World Wide Web. Alternatively, the window 220 adapts an EPG window to display the result of a broadcast data query. The user can select the information sources to be searched, such as the World Wide Web and the electronic program guide information (see Legall, col. 2, lines 7-66). In other words, the power search tool is installed and resides on the user's computer device (i.e., subscriber equipment).

By contrast, the Applicants' invention provides that the IPG page having the search criteria object is composed and rendered at a head end (i.e., provider equipment) and operable to support a search of a program guide database. The advantage over the cited reference to generate and store the IPG pages having the search criteria object until a request is received is that less resources at the set-top terminal (STT) is required. It is noted the Legall reference discloses a computer device having an operating system capable of executing a web browser, such as Mosaic®, Internet Explorer®, or Netscape®. Such application programs are very large and require large amounts of memory and processing power at the subscriber equipment to execute the programs.

The Applicants' invention overcomes this deficiency by providing an IPG having search capabilities at the service provider equipment. The IPG page of the present invention is sent to the STT as streamed information, and does not need to permanently reside at the STT, thereby unnecessarily consuming resources of the STT. Since the Legall reference fails to teach, or even suggest, the Applicants' claimed feature of "receiving, from service provider equipment, an interactive program guide (IPG) comprising a plurality of IPG pages conveyed by respective image streams, each of said IPG pages including a search object and a respective portion of IPG imagery," the

cited reference fails to teach each and every element of the claimed invention, as arranged in the claim.

As such, the Applicants submit that independent claim 1 fully satisfies the requirements under 35 U.S.C. § 102 and is patentable thereunder. Furthermore, independent claims 20, 26, and 27 recite similar features as recited in independent claim 1. As such and for at least the same reasons discussed above, the Applicants submit that independent claims 20, 26, and 27 fully satisfy the requirements under 35 U.S.C. § 102 and are patentable thereunder. In addition, dependent claims 2-8, 10, 17, 19, and 21-23, are allowable at least for their dependency, directly or indirectly, on independent claims 1 and 20, and for at least the same reasons discussed above. Therefore, the Applicants respectfully request that the rejection of these claims be withdrawn.

Rejections under 35 U.S.C. §103

Claims 9, 11-14 and 24-25

The Examiner has rejected claims 9, 11-14 and 24-25 as being unpatentable over Legall under 35 U.S.C. §103(a). Applicants respectfully traverse the rejection.

Claims 9, 11-14 and 24-25 depend directly or indirectly from independent claims 1 and 20, described above, and include all of their limitations. For example, dependent claim 24 (and similarly, dependent claims 9, 11-14, and 25) recites in part:

“An interactive program guide (IPG) page, comprising:
at least one guide region configurable to display a listing of a plurality of channels; and
a search window object configurable to receive one or more criteria for the search of the program guide database; wherein said IPG page having said search criteria object is composed and rendered at a head end and operable to support a search of a program guide database.” (emphasis added).

The test under 35 U.S.C. §103 is not whether an improvement or a use set forth in a patent would have been obvious or non-obvious; rather, the test is whether the claimed invention, considered as a whole, would have been obvious. Jones v. Hardy,

110 U.S.P.Q. 1021, 1024 (Fed. Cir. 1984) (emphasis added). Legall fails to teach or suggest the applicants' invention as a whole.

As discussed above with respect to applicants' claims 1 and 20, Legall does not teach, show or suggest "said IPG page having said search criteria object is composed and rendered at a head end and operable to support a search of a program guide database." Rather, Legall discloses that "the power search tool is executes a web browser application that uses a search engine to search the World Wide Web. Alternatively, the window 220 adapts an EPG window to display the result of a broadcast data query. The user can select the information sources to be searched, such as the World Wide Web and the electronic program guide information (see Legall, col. 2, lines 7-66). In other words, the power search tool is installed and resides on the user's computer device (i.e., subscriber equipment). Nowhere is there any suggestion in the Legall reference to compose and render the IPG page having the search criteria object at a head-end (service provider equipment), as claimed by the Applicants.

Furthermore, the Examiner's Official Notice regarding the use of video slices fails to teach or suggest the Applicants' claimed feature of "said IPG page having said search criteria object is composed and rendered at a head end and operable to support a search of a program guide database." Therefore, the combined teaching disclose sending a slice based IPG page to subscriber equipment, and a power search tool installed on the subscriber equipment facilitates searches with respect to the IPG. The teachings of the combined references differ from the Applicant's invention, since the Applicant's invention provides that the IPG page having said search criteria object is composed and rendered at a head end.

Moreover, the invention as a whole is not restricted to the specific subject matter claimed, but also embraces its properties and the problem it solves. In re Wright, 6 U.S.P.Q. 2d 1959, 1961 (Fed. Cir. 1988) (emphasis added). The Applicant's invention solves a problem resource management as between the provider equipment and the subscriber equipment. The Applicants' invention enables minimal computing resources (e.g., processing speed/power, memory, and the like) to be utilized at the STT, while the provider equipment is capable of composing and rendering the IPG page having the

search criteria object at the service provider equipment (e.g., head-end). By contrast, the Legall reference discloses a computer device having an operating system capable of executing a web browser, such as Mosaic®, Internet Explorer®, or Netscape®. Such application programs are very large and require large amounts of memory and processing power at the subscriber equipment to execute the programs.

The Applicants' invention overcomes this deficiency by providing an IPG having search capabilities at the service provider equipment. The IPG page of the present invention is sent to the STT as streamed information, and does not need to permanently reside at the STT, thereby unnecessarily consuming resources of the STT. Since the combination of Legall and the Examiner's Official Notice fails to teach, or even suggest, the Applicants' claimed feature of "said IPG page having said search criteria object is composed and rendered at a head end and operable to support a search of a program guide database," the cited reference fails to teach the Applicants' invention as a whole.

As such, the Applicants submit that dependent claim 24 fully satisfies the requirements under 35 U.S.C. § 103 and is patentable thereunder. Furthermore, dependent claims 9, 11-14 and 25 recite similar features as recited in dependent claim 24. As such and for at least the same reasons discussed above, the Applicants submit that these dependent claims fully satisfy the requirements under 35 U.S.C. § 103 and are patentable thereunder. Therefore, the Applicants respectfully request that the rejection of these claims be withdrawn.

Claims 15 and 16

The Examiner has rejected claims 15 and 16 under 35 U.S.C. §103(a) as being unpatentable over Legal in view of Leary (U.S. Patent 6,425,133, hereinafter "Leary"). Applicants respectfully traverse the rejection.

Claims 15 and 16 depend directly or indirectly from independent claim 1 described above, and include all of its limitations. In particular, dependent claim 15 (and similarly dependent claim 16) recites in part:

"A method for searching a program guide database, comprising:

receiving, from service provider equipment, an interactive program guide (IPG) comprising a plurality of IPG pages conveyed by respective image streams, each of said IPG pages including a search object and a respective portion of IPG imagery;

receiving one or more search criteria;

sending a request for a search along with the one or more search criteria to a head end of an information distribution system; and

receiving one or more search results from the head end, and wherein the program guide database is searched at the head end." (emphasis added).

As discussed above with respect to applicants' claim 1, Legall does not teach, show or suggest the claimed feature of "receiving, from service provider equipment, an interactive program guide (IPG) comprising a plurality of IPG pages conveyed by respective image streams, each of said IPG pages including a search object and a respective portion of IPG imagery" Rather, Legall discloses that "the power search tool is executes a web browser application that uses a search engine to search the World Wide Web. Alternatively, the window 220 adapts an EPG window to display the result of a broadcast data query. The user can select the information sources to be searched, such as the World Wide Web and the electronic program guide information (see Legall, col. 2, lines 7-66). In other words, the power search tool is installed and resides on the user's computer device (i.e., subscriber equipment). Nowhere is there any suggestion in the Legall reference to compose and render the IPG page having the search criteria object at a head-end (service provider equipment), as claimed by the Applicants.

Furthermore, the Leary reference fails to bridge the substantial gap as between the Legall reference and the Applicants' invention. Specifically, Leary discloses transmitting data from a head-end to a set-top box on an out-of-band channel (see Leary, col. 2, lines 38-48). Thus, the combined references merely disclose transmitting an IPG page to a set-top terminal from a head-end via an out-of-band channel, and a power search tool installed on the set-top terminal for facilitating searches with respect to the IPG. Since the combined references fail to teach or suggest the claimed feature of "receiving, from service provider equipment, an interactive program guide (IPG)

comprising a plurality of IPG pages conveyed by respective image streams, each of said IPG pages including a search object and a respective portion of IPG imagery," the combined references fail to teach or suggest the Applicants' invention as a whole.

As such, the Applicants submit that dependent claim 15 fully satisfies the requirements under 35 U.S.C. § 103 and is patentable thereunder. Furthermore, dependent claim 16 recites similar features as recited in dependent claim 15. As such and for at least the same reasons discussed above, the Applicants submit that dependent claim 16 also fully satisfies the requirements under 35 U.S.C. § 103 and is patentable thereunder. Therefore, the Applicants respectfully request that the rejection of these claims be withdrawn.

Claim 18

The Examiner has rejected claim 18 under 35 U.S.C. §103(a) as being unpatentable over Legal in view of Thomas et al. (U.S. Patent 5,666,645, hereinafter "Thomas"). Applicants respectfully traverse the rejection.

Claim 18 depends indirectly from independent claim 1 described above, and includes all of its limitations. As discussed above with respect to applicants' claim 1, Legall does not teach, show or suggest the claimed feature of "receiving, from service provider equipment, an interactive program guide (IPG) comprising a plurality of IPG pages conveyed by respective image streams, each of said IPG pages including a search object and a respective portion of IPG imagery." Rather, Legall discloses that "the power search tool is executes a web browser application that uses a search engine to search the World Wide Web. Alternatively, the window 220 adapts an EPG window to display the result of a broadcast data query. The user can select the information sources to be searched, such as the World Wide Web and the electronic program guide information (see Legall, col. 2, lines 7-66). In other words, the power search tool is installed and resides on the user's computer device (i.e., subscriber equipment). Nowhere is there any suggestion in the Legall reference to compose and render the IPG page having the search criteria object at a head-end (service provider equipment), as claimed by the Applicants.

Furthermore, the Thomas reference fails to bridge the substantial gap as between the Legall reference and the Applicants' invention. Specifically, Thomas discloses "[t]he text fit process is a two stage process including a non-interactive background process that scans the database for work which needs to be done and interactive processes that scan for marked entries that are indexed and easy to find." (see Thomas, col. 7, lines 27-31). Nowhere in the Thomas reference, or in the combined teachings of Legall and Thomas, is there any teaching or suggestion of the Applicants' claimed feature of "receiving, from service provider equipment, an interactive program guide (IPG) comprising a plurality of IPG pages conveyed by respective image streams, each of said IPG pages including a search object and a respective portion of IPG imagery." Therefore, the combined references fail to teach or suggest the Applicants' invention as a whole.

As such, the Applicants submit that dependent claim 18 fully satisfies the requirements under 35 U.S.C. § 103 and is patentable thereunder. Therefore, the Applicants respectfully request that the rejection be withdrawn.

THE SECONDARY REFERENCES

The secondary references made of record are noted. However, it is believed that the secondary references are no more pertinent to the Applicant's disclosure than the primary references cited in the office action. Therefore, Applicant believes that a detailed discussion of the secondary references is not necessary for a full and complete response to this office action.

CONCLUSION

Thus, applicants submit that none of the claims, presently in the application, are anticipated or obvious under the respective provisions of 35 U.S.C. §102 and §103. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Eamon J. Wall, Esq. or Steven M. Hertzberg at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

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